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Short- and long-term follow up of umbilical surgery in 26 Piedmontese calves

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Umbilical infections, such as omphalophlebitis, omphaloarteritis and infection of the urachus are common during neonatal period in calves [1]. If medical treatment fails, resection of infected umbilical structures is usually performed [1-2].

Twenty-six Piedmontese calves referred to the OVU of the University of Turin for persistent umbilical diseases were included in the study. A clinical examination and abdominal ultrasonography was performed on all calves upon admission. The umbilicus was examined by palpation and by ultrasonography using 2-5-Mhz convex probe. Calves were administered high volume epidural anaesthesia with xylazine (0.05 mg/kg) and lidocaine (0.3 mL/kg of 2% solution) and placed in dorsal recumbency. The abdomen was surgically prepared and an elliptical skin incision around the umbilicus was performed. The abdominal cavity was then entered at the cranio- or caudo-lateral aspect of the umbilical mass to avoid accidental damage to infected umbilical remnants. Infected urachal remnants not extending to the bladder, infected umbilical artery remnant, and infected umbilical vein remnants not extending to the liver were dissected, double ligated, and removed. Infected urachus remnants extending to the bladder were similarly isolated, removed and a cistoplasty performed. In two calves the infected umbilical vein remnants extending to the liver were marsupialized. Abdominal incisions were closed by a simple continuous patterns on the fascia followed by a modified intradermal continuous suture.

Antibiotics and non steroidal anti-inflammatory drugs were administered before surgery. Intra and postoperative complications were recorded as well as short term, at the one week and long term follow up, 6 months after surgery, and survival rates.

Twenty-six calves, 11 male and 15 female, mean age 26 days (1-150), mean weight 99 kg (40-300) were included. Out of 26 cases included in the report, 12 had only one structure infected (5 urachus, 5 vein, 2 arteries) 14 had multiple structure infected (3 urachus and vein, 3 urachus and arteries, 6 vein and arteries, 1 panomphalitis). In 8 calves infected urachus remnants extending to the bladder required a cystoplasty for complete resection, and in 2 calves the infected umbilical vein remnants extending to the liver were marsupialized. All calves recovered uneventfully, no intraoperative complications occurred and they were discharged from the clinic the same day of surgery. At short term follow up the only reported postoperative complication was incisional infection (8 cases). At long term follow up obtained 6 months post surgery in 29 calves normal weight gain was reported. One calf that underwent vein marsupialization, was euthanized 9 days postoperatively because of systemic infection.

In conclusion, umbilical surgery in calves carries a good success rate when performed in hospital settings under epidural anaesthesia.

References:

- [1] Lewis et al. Sedation with xylazine and lumbosacral epidural administration of lidocaine and xylazine for umbilical surgery in calves. J Am Vet Med Assoc 1999; 214: 89-95.
- [2] Lopez and Markel. Umbilical artery marsupialization in a calf. Can Vet J 1996; 37: 170-171.